



Patent
Attorney's Docket No. 018656-135

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
Takayuki Nabeshima) Group Art Unit: 2626
Application No.: 09/526,878) Examiner: THOMAS J LETT
Filed: March 16, 2000) Confirmation No.: 1442
For: BLACK EDGE DETERMINATION)
METHOD AND DEVICE)
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RESPONSE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated August 12, 2004, the Examiner is thanked for the careful examination of the application, and for the indication of allowable subject matter in claims 3-8. However, in view of the remarks that follow, the Examiner is respectfully urged reconsider and withdraw the rejection of claims 1 and 2.

The present invention set forth in claim 1 relates to determining whether or not the edge portion of an image is a black edge based on brightness information, saturation information, and hue information. As set forth on page 3, line 10, of the present application, determination as to whether or not edges are black edges has conventionally been made based on a comparison of the saturation information with a threshold value obtained based on the brightness value. Another determination method disclosed in JP 8-116462 uses a second black character identifying unit to identify black characters using black signals K and saturation signals obtained from

- the YMC color space. However, the conventional methods suffer from aberrations in the optical system or line to line correction.

The Examiner alleges that the subject matter of claims 1 and 2 is obvious in view of U.S. Patent No. 5,905,579, hereinafter *Katayama et al.*, in view of U.S. Patent No. 5,751,847, hereinafter *Wuyts*. *Katayama et al.* discloses an image processing method that scans the image of an original and has an edge detecting circuit that detects edge pixels. However, as recognized by the Examiner, *Katayama et al.* does not teach or suggest determining a black edge based on obtaining brightness information, saturation information, and hue information with respect to the edge portion. To overcome this deficiency, the Examiner relies upon *Wuyts*.

Wuyts discloses a method using a color camera, wherein the values of hue, saturation, and brightness (H, S, B) are determined of an object. The *Wuyts* method uses the HSB data to determine whether or not the object is black.

The Examiner alleges that *Katayama et al.* and *Wuyts* are analogous are because they are from similar problem solving areas of image area detection. However, Applicants submit that there is no teaching or suggestion to combine the broader teaching of *Wuyts* in the specific manner alleged by the Examiner. Specifically, *Wuyts* does not relate to determining whether or not an edge is black. *Wuyts* is concerned with determining whether or not a pixel in an image is black.

In fact, contrary to the express object of *Katayama et al.*, *Wuyts* is not concerned with edge detection at all. Accordingly, Applicant submits that one of ordinary skill in the art seeking to solve the problems of the present invention would not be motivated to look to the teachings of *Wuyts*. Accordingly, Applicant submits that there is no adequate motivation to combine *Wuyts* with *Katayama et al.* as

alleged by the Examiner. Furthermore, even if such a combination was made, there is no teaching or suggestion that the black determining portion of *Wuyts* would be specifically applied to an edge determining function, as defined in claim 1.

Accordingly, Applicant submits that the references, either singly, or combined, do not teach or suggest the subject matter of claim 1.

Claim 2 depends from claim 1, and is thus also patentable over the applied prior art at least for the reasons set forth above with respect to claim 1.

Accordingly, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejection.

In the event that the Examiner persists with the rejection, the Examiner is respectfully requested to provide further details concerning the alleged motivation for combining the references. In addition, the Examiner is respectfully requested to specify how the teachings of *Wuyts* would be incorporated into the technology of *Katayama*.

In the event that there are any questions concerning this response, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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